

CLAIMS

1. A device for detecting electrical potentials on a patient, with an electrode device which can be applied in the forehead region of the patient, wherein the electrode device is arranged on a forehead support element which co-operates with a breathing mask device in such a way that the application position of the electrode device is established in conjunction with the application position of the breathing mask device.

2. A device as set forth in claim 1 characterized in that the forehead support element is coupled to the breathing mask device.

3. A device as set forth in claim 1 ~~or claim 2~~ characterized in that the forehead support element is formed from an elastomer material.

4. A device as set forth in ~~one of claims 1 through 3~~ ^{claim 1} characterized in that the forehead support element is formed in one piece with a mask base member of the breathing mask device.

5. A device as set forth in ~~one of claims 1 through 4~~ ^{claim 1} characterized in that there is provided a stiffening element which stiffeningly couples together the forehead support element and the breathing mask device.

6. A device as set forth in ~~one of claims 1 through 5~~ ^{claim 1} characterized in that the electrode device has at least two electrode elements.

7. A device as set forth in ~~one of claims 1 through 6~~ ^{claim 1} characterized in that the electrode device has three electrode elements.

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004050"E2508660

claim 1

8. A device as set forth in ~~one of claims 1 through 7~~ characterized in that electrode elements are mounted into an application surface yielding in a substantially perpendicular direction.

claim 1

9. A device as set forth in ~~one of claims 1 through 8~~ characterized in that the electrode elements are coupled to a signal processing device.

claim 1

10. A device as set forth in ~~one of claims 1 through 9~~ characterized in that the signal processing device is integrated into the forehead support element.

claim 1

11. A device as set forth in ~~one of claims 1 through 10~~ characterized in that the signal processing device is provided with a data transmission device for the cord-less transmission of the processed signals to a data processing device.

12. A breathing mask arrangement for feeding a respiration gas to a patient under an increased pressure, comprising:

- a mask member which engages over the nose region of the patient,
- a sealing device for sealing off an inner region of the mask with respect to the ambient atmosphere, and
- a forehead support element for supporting the mask member in the forehead region of the patient, characterized in that provided in the region of the forehead support element is an electrode device for detecting electrical and in particular brain-electrical potentials.

claim 1

13. A device as set forth in ~~one of claims 1 through 12~~ characterized in that the forehead support element is formed from an elastomer material.

claim 1

14. A device as set forth in ~~one of claims 1 through 13~~ characterized in that the mask member is formed from an elastomer material.

claim 1

15. A device as set forth in ~~one of claims 1 through 14~~ characterized in that the forehead support element and the mask member are integral.

claim 1

16. A device as set forth in ~~one of claims 1 through 15~~ characterized in that the mask member and the forehead support element are adapted to the individual contour of the face of the patient by virtue of stiffening with a stiffening device which extends into the forehead support element.

17. A device for detecting electrical potentials in the forehead region of a patient, in particular for determining sleep stages, comprising:

an electrode device, a measuring circuit arrangement for producing measurement data in accordance with the electrical potentials detected by the electrode device, characterized in that the measuring circuit arrangement is integrated into a forehead support element, and there is provided a signal transmission device for cord-less transmission of the measurement data produced by the measuring circuit arrangement.

claim 17

18. A device as set forth in ~~one of claims 1 through 17~~ characterized in that the measuring circuit arrangement has a data compression device for forwarding a compressed data set to the signal transmission device.

19. A device for detecting electrical potentials in the forehead region of a patient, in particular for determining sleep stages, comprising:

an electrode device, a measuring circuit arrangement for producing measurement data in accordance with the electrical potentials detected by the electrode device, characterized in that the measuring circuit arrangement is integrated into a forehead support element, and there is provided a measurement data recording device for recording the measurement data produced by the measuring circuit arrangement.

claim 1a

20. A device as set forth in ~~one of claims 1 through 19~~ characterized in that the measurement data recording device is formed by an approximately postage stamp-size memory card element which is releasably fitted.